

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) An electronic circuit that

changes a reference voltage value Vref with a transforming circuit circuit, Vref being capable of causing a current Io to flow through a plurality of N current-generating active elements if directly applied to the plurality of N current-generating active elements, the transforming circuit using a voltage-rising transistor having a threshold voltage Vthc of a transistor that is substantially identical to a threshold voltage of one of a plurality of current-generating active elements Vth, the voltage-rising transistor being located in physical proximity to the plurality of N current-generating active elements, Vth being a threshold voltage of one of the plurality of N current-generating active elements, the transforming circuit establishing a changed reference voltage (Vref+Vthc) that is capable of causing a current In ($n=1, 2, \dots, N$) to flow through the plurality of N current-generating active elements, supplies to supply the changed reference voltage to control terminals of the plurality of current-generating N current-generating active elements, establishes a conduction state of the plurality of the current-generating N current-generating active elements, and selects, using a plurality of switching transistors, some of the plurality of current-generating N current-generating active elements based on signals and generates a current having a current level corresponding to the signals by superposing currents passing through the current-generating active elements selected by the signal, from among the plurality of current-generating N current-generating active elements.

2. (Currently Amended) An electronic circuit, comprising:

a plurality of current-generating N current-generating active elements;

a transforming circuit that generates an applied voltage (Vref + Vthc) that is applied to control terminals of the plurality of ~~current-generating~~^N current-generating active elements by using a threshold voltage voltage Vthc of a voltage-rising transistor that is substantially identical to a threshold voltage voltage Vth of one of the plurality of ~~current-generating~~^N current-generating active elements to change a reference voltage, voltage Vref, Vref being capable of causing a current Io to flow through a plurality of N current-generating active elements if directly applied to the plurality of N current-generating active elements, the voltage-rising transistor being located in physical proximity to the plurality of N current-generating active elements, the applied voltage being capable of causing a current In ($n=1, 2, \dots, N$) to flow through the plurality of N current-generating active elements, and selection transistors connected in series to each of the plurality of the ~~current-generating~~^N current-generating active elements.

a current having a current level corresponding to signals being generated by superposing the currents that pass through a selection transistor in which an ON-state is selected, among the selection transistors, based on the signals and the current-generating active elements connected in series to the selected selection transistor from among the plurality of ~~current-generating~~^N current-generating active elements.

3. (Previously Presented) The electronic circuit according to Claim 1, the transforming circuit comprising a compensating transistor that reduces the reference voltage value by a predetermined value or that adds a predetermined value to the reference voltage value.

4. (Previously Presented) The electronic circuit according to Claim 1, each of the plurality of current-generating active elements including at least one transistor.

5. (Previously Presented) The electronic circuit according to Claim 1, the plurality of current-generating active elements being connected in parallel to each other.

6. (Previously Presented) The electronic circuit according to Claim 3, each of the plurality of current-generating active elements comprising one current generating transistor and the current generating transistors having different gain factors from each other.

7. (Previously Presented) The electronic circuit according to Claim 3, at least one current-generating active element from among the plurality of the current-generating active elements being connected in series to a unit transistor.

8. (Previously Presented) The electronic circuit according to Claim 7, the compensating transistor being a transistor having a characteristic equal to that of the unit transistor.

9. (Previously Presented) The electronic circuit according to Claim 6, the current generating transistors and the compensating transistor being formed at positions adjacent to each other and have the same threshold voltage value.

10. (Previously Presented) The electronic circuit according to Claim 3, the transforming circuit comprising an initializing device that turns on the compensating transistor.

11. (Previously Presented) The electronic circuit according to Claim 1, the transforming circuit comprising a voltage-stabilizing device.

12. (Previously Presented) The electronic circuit according to Claim 11, the voltage-stabilizing device comprising capacitors.

13. (Currently Amended) An electro-optical device, comprising:
a control circuit that outputs digital luminance gradation data;
a driving circuit that generates an analog driving signal based on the digital luminance gradation data; and
a pixel circuit that drives an electro-optical element based on the analog driving signal,

the driving circuit using a threshold voltage voltage Vthc of a voltage-rising transistor substantially identical to a threshold voltage voltage Vth of one of a plurality of current-generating active elements to change a reference voltage value value Vref with a converting circuit to supply the a changed reference voltage Vref + Vthc to control terminals of the plurality of current-generating active elements and to establish a conduction state in the plurality of current-generating active elements, Vref being capable of causing a current Io to flow through the plurality of current-generating active elements if directly applied to the plurality of current-generating active elements, the voltage-rising transistor being located in physical proximity to the plurality of current-generating active elements, the changed reference voltage being capable of causing a current In ($n=1, 2, \dots, N$) to flow through the plurality of current-generating active elements; and selecting, using a plurality of switching transistors, some of the plurality of current-generating active elements based on the digital luminance gradation data, and superposing currents that pass through an current-generating active elements selected by the digital luminance gradation data, from among the plurality of current-generating active elements, to thereby generate an analog driving signal having a current level corresponding to the digital luminance gradation data.

14. (Currently Amended) An electro-optical device, comprising:

- a control circuit that outputs digital luminance gradation data;
- a driving circuit that generates an analog driving signal based on the digital luminance gradation data; and
- a pixel circuit that drives a current driving element based on the analog driving signal,

the driving circuit comprising a plurality of current-generating active elements; a transforming circuit that generates an applied voltage (Vref + Vthc) which is applied to control terminals of the plurality of current-generating active elements by using a threshold

voltage-voltage V_{thc} of a voltage-rising transistor that is substantially identical to a threshold voltage-voltage V_{th} of one of the plurality of current-generating active elements to change a reference voltage V_{ref} , V_{ref} being capable of causing a current I_o to flow through the plurality of current-generating active elements if directly applied to the plurality of current-generating active elements, the voltage-rising transistor being located in physical proximity to the plurality of current-generating active elements, the applied voltage being capable of causing a current I_n ($n=1, 2, \dots, N$) to flow through the plurality of current-generating active elements; and selection transistors connected in series to each of the plurality of current-generating active elements, and

a current having a current level corresponding to said digital luminance gradation data being generated by superposing the currents that pass through a selection transistor in which an ON-state is selected, from among the selection transistors, based on the signal and the current-generating active elements connected in series to the selected selection transistor from among the plurality of current-generating active elements.

15. (Previously Presented) The electro-optical device according to Claim 14, the transforming circuit comprising a compensating transistor that reduces the reference voltage value by a predetermined value or that adds a predetermined value to the reference voltage value.

16. (Previously Presented) The electro-optical device according to Claim 13, each of the plurality of current-generating active elements comprising at least one transistor.

17. (Previously Presented) The electro-optical device according to Claim 13, the plurality of current-generating active elements being connected in parallel to each other.

18. (Previously Presented) The electro-optical device according to Claim 15, each of the plurality of the current-generating active elements comprising a current generating transistor, and the current generating transistors having different gain factors from each other.

19. (Previously Presented) The electro-optical device according to Claim 15, at least one of the plurality of current-generating active elements being connected in series to a unit transistor.

20. (Previously Presented) The electro-optical device according to Claim 19, the compensating transistor being a transistor having a characteristic equal to that of the unit transistor.

21. (Previously Presented) The electro-optical device according to Claim 18, the current generating transistors and the compensating transistor being formed at positions adjacent to each other, and have the same threshold value voltage.

22. (Previously Presented) The electro-optical device according to Claim 15, the transforming circuit comprising an initializing device that turns on the compensating transistor.

23. (Previously Presented) The electro-optical device according to Claim 14, the transforming circuit comprising a voltage-stabilizing device.

24. (Previously Presented) The electro-optical device according to Claim 23, the voltage-stabilizing device comprising capacitors.

25. (Previously Presented) The electro-optical device according to Claim 13, the electro-optical element being an electroluminescent (EL) element.

26. (Previously Presented) The electro-optical device according to Claim 25, the EL element comprising a light-emitting layer made up of organic materials.

27. (Previously Presented) An electronic apparatus packaged with the electronic circuit according to Claim 1.

28. (Previously Presented) An electronic apparatus packaged with the electro-optical device according to Claim 13.

29. (Previously Presented) The electronic circuit as set forth in Claim 7, at least one current generating active element of the plurality of current generating active elements having a parallel connection to the unit transistor.

30. (Previously Presented) The electro-optical device as set forth in claim 19, at least one current generating active element of the plurality of current generating active elements having a parallel connection to the unit transistor.

31. (New) The electronic circuit according to claim 1, wherein

$$I_o = (1/2) \beta n (V_{ref} - V_{th})^2 ,$$

where βn is a gain factor of current-generating active element n , $n=1, 2, \dots, N$, and

$$I_n = (1/2) \beta n (V_{ref})^2 .$$

32. (New) The electronic circuit according to claim 2, wherein

$$I_o = (1/2) \beta n (V_{ref} - V_{th})^2 ,$$

where βn is a gain factor of current-generating active element n , $n=1, 2, \dots, N$, and

$$I_n = (1/2) \beta n (V_{ref})^2 .$$

33. (New) The electro-optical device according to claim 13, wherein

$$I_o = (1/2) \beta n (V_{ref} - V_{th})^2 ,$$

where βn is a gain factor of current-generating active element n , $n=1, 2, \dots, N$, and

$$I_n = (1/2) \beta n (V_{ref})^2 .$$

34. (New) The electro-optical device according to claim 14, wherein

$$I_o = (1/2) \beta n (V_{ref} - V_{th})^2 ,$$

where β_n is a gain factor of current-generating active element n , $n=1, 2, \dots, N$,
and

$$I_n = (1/2) \beta_n (V_{ref})^2 .$$